

Correlation between 25 OH vitamin D3 and TSH concentration in population over 65 - preliminary report

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ECE2014

3-7 May 2014
Wrocław, Poland



Introduction

Active metabolites of vitamin D have pleiotropic influence on whole body.

Aim

The aim of the study was evaluation of the correlation between Vitamin D3 and TSH values in population over 65.

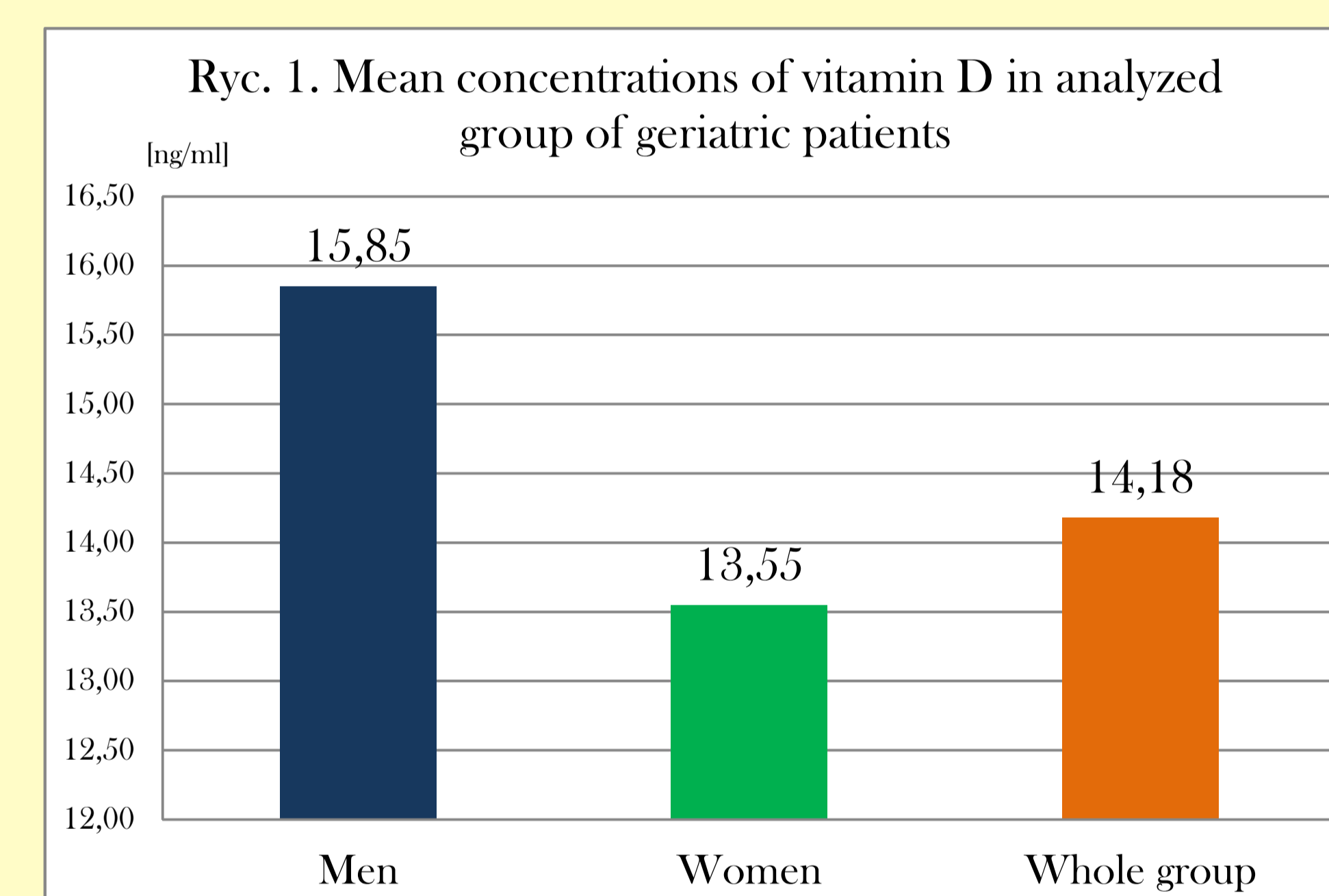
Materials and methods

94 patients admitted to diagnosis on Geriatric Department entered the study. People with age above 65 were included to research and divided on two groups according to sex. The material samples were obtained from patients in the morning during routine sampling. The concentration of 25 OH vitamin D were determined by ELISA. The obtained data were statistically analyzed using STATISTICA. $\alpha=0,05$.

Results

The examined group consist of 26 **men (27,66%)** and 68 **women (72,34%)**. The average age of whole group was **77,55±6,76 years**. **Characteristic of the group Table 1, Ryc. 1.**

There were no statistical significance observed in women group in relation to 25 OH vitamin D3 and TSH concentration and between TSH concentration and 25 OH vitamin D3 in the whole group **Table 2. There was observed statistically significance negative correlation between 25 OH vitamin D3 and TSH in analyzed group of men (R=-0,43;p=0,0329) Table 3.**



Men	N	Mean	Standard deviation	Median	Min	Max	p	Women	N	Mean	Standard deviation	Median	Min	Max
Age	26	75,96	6,51	75,00	64,00	90,00	0,1460	Age	68	78,16	6,80	78,50	65,00	97,00
Weight [kg]	26	77,85	13,54	78,00	44,50	104,30	0,0009	Weight [kg]	68	70,57	16,27	70,30	38,50	135,00
Height [cm]	26	168,94	7,42	169,00	157,00	182,00	0,0000	Height [cm]	68	154,52	5,88	155,00	143,00	172,00
BMI	26	27,06	3,83	27,25	17,50	35,00	0,0942	BMI	68	29,41	6,53	28,85	17,50	56,90
WHR	26	0,96	0,06	0,96	0,85	1,08	0,0000	WHR	68	0,85	0,05	0,85	0,76	0,97
WHR	26	0,59	0,07	0,59	0,45	0,74	0,6695	WHR	68	0,60	0,09	0,60	0,41	0,87
TSH [uIU/ml]	26	1,41	0,64	1,27	0,57	2,87	0,1096	TSH	66	1,98	1,43	1,57	0,14	7,54
Vitamin D [ng/ml]	25	15,85	6,36	15,40	7,40	31,70	0,1229	Vitamin D [ng/ml]	66	13,55	5,19	12,50	2,90	29,40

Table .1. Characteristic of the whole analyzed group- descriptive statistics

Conclusions

Current studies showed negative correlation between 25 OH vitamin D3 and TSH concentration in group of men while it is not observe of women. The future researches are necessary in order to obtain accurate results.

Men	N	R	t(N-2)	p
Vitamin D [ng/ml] & BMI	25	0,20	0,99785	0,3287
Vitamin D [ng/ml] & Calf circumference [cm]	25	0,28	1,42024	0,1690
Vitamin D [ng/ml] & Arm circumference [cm]	25	0,43	2,29192	0,0314
Vitamin D [ng/ml] & Weist circumference [cm]	25	0,07	0,33991	0,7370
Vitamin D [ng/ml] & Hip circumference [cm]	25	0,30	1,50173	0,1468
Vitamin D [ng/ml] & WHR	25	-0,07	-0,34231	0,7352
Vitamin D [ng/ml] & WHtR	25	0,04	0,17727	0,8609
Vitamin D [ng/ml] & TSH	25	-0,43	-2,27022	0,0329

Table. 2. Spearman rank correlation between analyzed traits in group of men

Women	N	R	t(N-2)	p
Vitamin D [ng/ml] & BMI	66	0,24	1,945117	0,0562
Vitamin D [ng/ml] & Calf circumference [cm]	66	0,22	1,805976	0,0756
Vitamin D [ng/ml] & Arm circumference [cm]	66	0,09	0,719303	0,4746
Vitamin D [ng/ml] & Weist circumference [cm]	66	0,10	0,844610	0,4015
Vitamin D [ng/ml] & Hip circumference [cm]	66	0,16	1,297269	0,1992
Vitamin D [ng/ml] & WHR	66	0,01	0,103238	0,9181
Vitamin D [ng/ml] & WHtR	66	0,10	0,773473	0,4421
Vitamin D [ng/ml] & TSH	64	0,03	0,212298	0,8326

Table. 3. Spearman rank correlation between analyzed traits in group of women